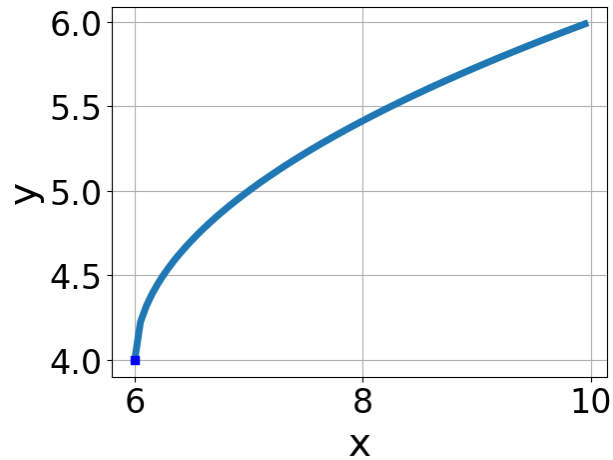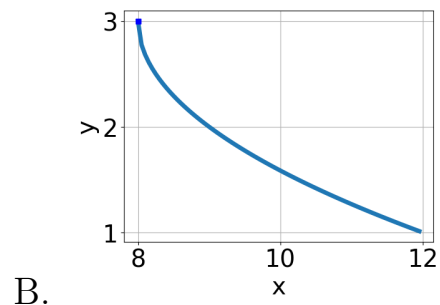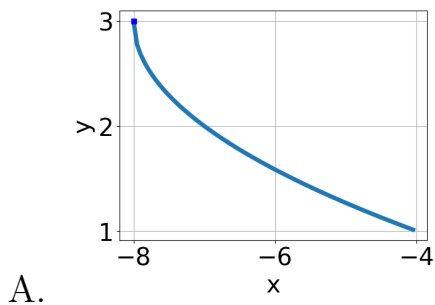1. Choose the equation of the function graphed below.

A. $f(x) = \sqrt{x+6} + 4$

B. $f(x) = -\sqrt{x+6} + 4$

C. $f(x) = -\sqrt{x-6} + 4$

D. $f(x) = \sqrt{x-6} + 4$

E. None of the above

2. Choose the graph of the equation below.

$$f(x) = -\sqrt{x-8} + 3$$

A.

B.

C.

D.

E. None of the above.

3. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{63x^2 + 10} - \sqrt{59x} = 0$$

A. $x_1 \in [-0.44, 0.67]$ and $x_2 \in [0.6, 2.1]$

B. $x_1 \in [-0.88, -0.67]$ and $x_2 \in [-0.6, -0.1]$

C. $x \in [0.27, 1.08]$

D. All solutions lead to invalid or complex values in the equation.
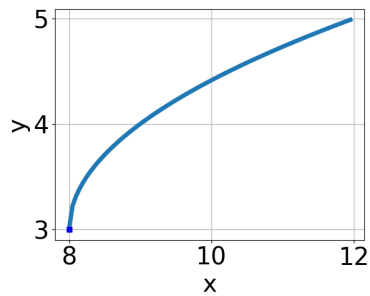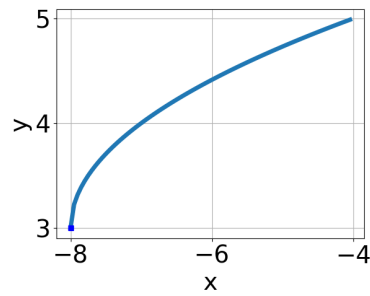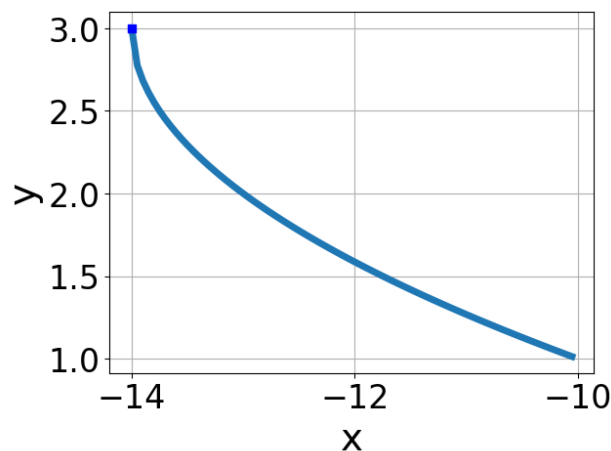
E. $x \in [-0.44, 0.67]$

4. Choose the equation of the function graphed below.

A. $f(x) = \sqrt{x + 14} + 3$

B. $f(x) = -\sqrt{x - 14} + 3$

C. $f(x) = \sqrt{x - 14} + 3$

D. $f(x) = -\sqrt{x + 14} + 3$

E. None of the above

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5. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-12x^2 + 30} - \sqrt{-2x} = 0$$

A. $x_1 \in [1.3, 1.55]$ and $x_2 \in [-3.33, 2.67]$

B. $x_1 \in [-1.64, -1.4]$ and $x_2 \in [-3.33, 2.67]$

C. All solutions lead to invalid or complex values in the equation.

D. $x \in [-1.64, -1.4]$

E. $x \in [1.6, 1.77]$

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6. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-4x + 8} - \sqrt{-9x - 6} = 0$$

A. $x_1 \in [-1.21, -0.61]$ and $x_2 \in [-2, 7]$

B. $x_1 \in [-3.15, -2.55]$ and $x_2 \in [-2, 7]$

C. $x \in [-3.15, -2.55]$

D. $x \in [-0.45, 0.32]$

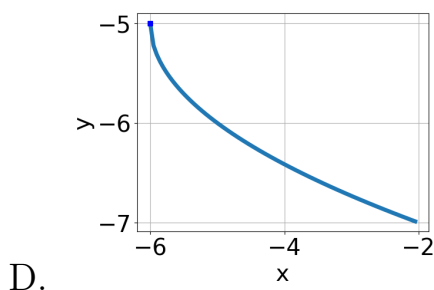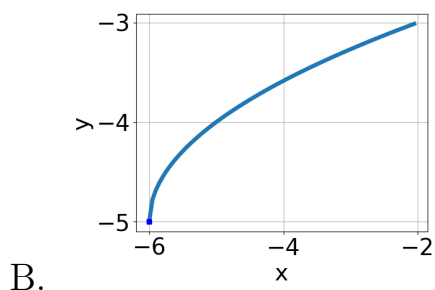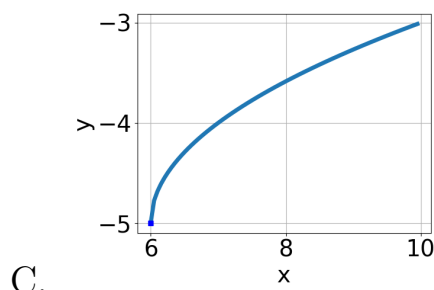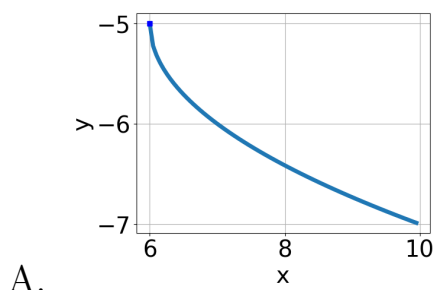E. All solutions lead to invalid or complex values in the equation.

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7. What is the domain of the function below?

$$f(x) = \sqrt[5]{-6x + 4}$$

A. The domain is $(-\infty, a]$, where $a \in [-5.2, 1.4]$

B. The domain is $(-\infty, a]$, where $a \in [1.2, 1.9]$

C. $(-\infty, \infty)$

D. The domain is $[a, \infty)$, where $a \in [1.32, 1.96]$

E. The domain is $[a, \infty)$, where $a \in [-0.15, 1.37]$

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8. Choose the graph of the equation below.

$$f(x) = -\sqrt{x+6} - 5$$

A.

C.

B.

D.

E. None of the above.

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9. What is the domain of the function below?

$$f(x) = \sqrt[6]{3x + 6}$$

A. $[a, \infty)$, where $a \in [-0.6, 0.2]$

B. $(-\infty, a]$, where $a \in [-2.3, -1.5]$

C. $(-\infty, a]$, where $a \in [-1.8, 0.5]$

D. $(-\infty, \infty)$

E. $[a, \infty)$, where $a \in [-2.8, -0.7]$

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10. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{7x + 6} - \sqrt{9x - 9} = 0$$

A. $x \in [7.22, 8.19]$

B. $x_1 \in [-1.3, 0.85]$ and $x_2 \in [-1, 4]$

C. $x_1 \in [-1.3, 0.85]$ and $x_2 \in [5.5, 11.5]$

D. All solutions lead to invalid or complex values in the equation.

E. $x \in [-3.06, -0.9]$